

WHAT IS CLAIMED IS:

1. A breathing device, comprising:

a breathing gas circuit with a connected flat calcium hydroxide absorber cooled by an evaporating agent;

5 means for generating a gas volume flow of at least 60 *L* per minute admitted to an outer surface of the calcium hydroxide absorber said outer surface receiving said evaporating agent; and
an evaporating agent delivery means for delivering said evaporating agent to the outer surface of the calcium hydroxide absorber by admitted pressure from an evaporating agent reservoir via at least one connection line.

10 2. A breathing device in accordance with claim 1, wherein the outer surface of the calcium hydroxide absorber receiving the evaporating agent is provided with a hydrophilic fabric or nonwoven.

3. A breathing device in accordance with claim 1, wherein a gas volume flow of 150 *L* to 250 *L* per minute is admitted to the outer surface of said calcium hydroxide absorber by said
15 means for generating a gas volume flow.

4. A breathing device in accordance with claim 1, wherein the gas delivery means is a positive displacement blower driven electrically or by compressed gas.

5. A breathing device in accordance with claim 1, wherein the breathing device is a gas

mask or part of a gas mask system or a part of an anesthesia apparatus.

6. A breathing device in accordance with claim 1, wherein said evaporating agent delivery means includes an electrically or mechanically driven pump.

5 7. A breathing device in accordance with claim 1, wherein said evaporating agent delivery means comprises a pretensioned spring and said evaporating agent reservoir is provided with said pretensioned spring, so that the evaporating agent is delivered to the outer surface of the calcium hydroxide absorber by means of an admitted pressure.

8. A breathing device in accordance with claim 1, wherein the evaporating agent is water, a solution containing water or a mixture containing water.

10 9. A breathing device in accordance with claim 1, wherein the at least one said connection line between said evaporating agent reservoir and the outer surface of the calcium hydroxide absorber is provided with a porous or fibrous material.

15 10. A breathing device in accordance with claim 1, further comprising: a breathing bag, which can be inflated by the breathing gas, in gas flow connection with said breathing gas circuit, said breathing bag being mechanically or electromechanically connected with a pump of said evaporating agent delivery means, so that said pump is actuated as a function of respiratory activity and movement of the breathing bag.

11. A breathing device in accordance with claim 1, wherein said evaporating agent delivery means includes a media separation and pressure transmission means separating a high pressure fluid as a source of pressure from the evaporating agent to apply pressure on the evaporating agent to supply the evaporating agent.

5 12. A breathing device in accordance with claim 11, further comprising: a breathing bag, which can be inflated by the breathing gas, in gas flow connection with said breathing gas circuit, wherein said high pressure fluid of said media separation and pressure transmission means is gas in said breathing bag.

10 13. A breathing device in accordance with claim 11, further comprising: a pressurized gas reservoir, wherein said high pressure fluid of said media separation and pressure transmission means is gas in said pressurized gas reservoir.

 14. A breathing device in accordance with claim 13, wherein said pressurized gas reservoir is a high-pressure oxygen cylinder in regulated gas flow connection with said breathing gas circuit.

15 15. A breathing device in accordance with claim 11, wherein said media separation and pressure transmission means includes a piston and tank with said piston separating said high pressure fluid from said evaporating agent to apply pressure on the evaporating agent to supply the evaporating agent.

16. A breathing device in accordance with claim 11, wherein said media separation and pressure transmission means includes a high pressure fluid arrangement with a piston and cylinder or a bellows in fluid communication with said high pressure fluid and an evaporating agent fluid arrangement with a piston and cylinder or a bellows in fluid communication with said evaporating agent and further comprises a connecting element connecting said high pressure fluid arrangement with said evaporating agent fluid arrangement to apply pressure on the evaporating agent to supply the evaporating agent.

17. A breathing device in accordance with claim 11, wherein said media separation and pressure transmission means includes a tank with said membrane separating said high pressure fluid from said evaporating agent to apply pressure on the evaporating agent to supply the evaporating agent.

18. A breathing device in accordance with claim 1, wherein said calcium hydroxide absorber has the form of one or more parallelepipedic containers and of a container with an elliptical base, which are in gas flow connection.

19. A breathing device in accordance with claim 2, wherein said hydrophilic fabric or nonwoven is made of cotton or silk.

20. A breathing device in accordance with claim 1, wherein said evaporating agent delivery means includes a hose pump.

21. A breathing device in accordance with claim 1, wherein the at least one said connection line between said evaporating agent reservoir and the outer surface of the calcium hydroxide absorber is provided with cellulose acetate.

5 22. A breathing device, comprising:
a device housing with an absorber space connected to a cooling flow passage;
calcium hydroxide absorber disposed in said absorber space;
a breathing gas circuit connected said flat calcium hydroxide absorber;
an evaporating agent reservoir;
10 an evaporating agent;
a flow generator, generating a gas volume flow of at least 60 L per minute admitted to an outer surface of the calcium hydroxide absorber via said cooling flow passage;
a connection line; and
an evaporating agent delivery device, delivering said evaporating agent to the outer
15 surface of the calcium hydroxide absorber by admitted pressure from said evaporating agent reservoir via said connection line.

23. A breathing device in accordance with claim 22, further comprising a hydrophilic fabric or nonwoven provided at said the outer surface of the calcium hydroxide absorber for receiving evaporating agent via said connection line.

20 24. A breathing device in accordance with claim 22, wherein said flow generator is a

positive displacement blower driven electrically or by compressed gas.

25. A breathing device in accordance with claim 22, wherein said evaporating agent delivery device comprises a pretensioned spring, said evaporating agent reservoir being provided with said pretensioned spring, so that the evaporating agent is delivered to the outer surface of the calcium hydroxide absorber by means of an admitted pressure.

26. A breathing device in accordance with claim 22, wherein the evaporating agent is water, a solution containing water or a mixture containing water and said connection line between said evaporating agent reservoir and the outer surface of the calcium hydroxide absorber is provided with a porous or fibrous material.

27. A breathing device in accordance with claim 22, further comprising: a breathing bag, which can be inflated by the breathing gas, in gas flow connection with said breathing gas circuit, said breathing bag being mechanically or electromechanically connected with a pump of said flow generator, whereby said pump is actuated as a function of respiratory activity and movement of the breathing bag.

28. A breathing device in accordance with claim 22, wherein said evaporating agent delivery device includes a media separation and pressure transmission device separating a high pressure fluid as a source of pressure from the evaporating agent to apply pressure on the evaporating agent to supply the evaporating agent.

29. A breathing device in accordance with claim 28, further comprising: a breathing bag, which can be inflated by the breathing gas, in gas flow connection with said breathing gas circuit, wherein said high pressure fluid of said media separation and pressure transmission device is gas in said breathing bag.

5 30. A breathing device in accordance with claim 28, further comprising: a pressurized gas reservoir, wherein said high pressure fluid of said media separation and pressure transmission device is gas in said pressurized gas reservoir.

31. A breathing device in accordance with claim 30, wherein said pressurized gas reservoir is a high-pressure oxygen cylinder in gas flow connection with said breathing gas circuit.

10 32. A breathing device in accordance with claim 28, wherein said media separation and pressure transmission device includes a piston and tank with said piston separating said high pressure fluid from said evaporating agent to apply pressure on the evaporating agent to supply the evaporating agent.

15 33. A breathing device in accordance with claim 32, wherein said media separation and pressure transmission device includes a high pressure fluid arrangement with a piston and cylinder or a bellows in fluid communication with said high pressure fluid and an evaporating agent fluid arrangement with a piston and cylinder or a bellows in fluid communication with said evaporating agent and further comprises a connecting element connecting said high pressure fluid arrangement

with said evaporating agent fluid arrangement to apply pressure on the evaporating agent to supply the evaporating agent.

34. A breathing device in accordance with claim 28, wherein said media separation and pressure transmission device includes a tank with said membrane separating said high pressure fluid from said evaporating agent to apply pressure on the evaporating agent to supply the evaporating agent.